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ABSTRACT

On July 22, 1997, a panel of approximately 25 individuals, including members of the Accountability Committee of the National Association of State Directors of Vocational Technical Education, participated in a focus group for the following purposes: to identify the information needed for program accountability; to assess the National Center for Education Statistics' (NCES) current ability to meet those information needs; and to determine how NCES can improve its provision of information about vocational education and school-to-work programs. The focus group identified the primary purposes of collecting national data as follows: describe context and trends; describe and evaluate program practices; monitor compliance; and improve state and local programs. Data regarding the following were deemed necessary: long-term outcomes; intermediate outcomes; adults and lifelong learning; employer information; integration of academic and vocational education; linkage of classroom- and work-based learning; articulation between secondary and postsecondary education; teacher professional development; partnerships; and college/university admission practices. A review of upcoming NCES publications established that several of those publications could provide data in all the information needs areas identified. Ten recommendations about the content and format of future NCES publications were presented. (Attached is the draft of a revised Government Performance and Results Act indicator listing based on input from the focus group.) (MN)

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ED 412 338

REPORT FROM THE ACCOUNTABILITY COMMITTEE

National Association of State Directors of Vocational-Technical Education
September 3-6, 1997

Committee Members:

Richard Miguel - Illinois
Chris Lyons - Maine
Ann Benson - Oklahoma
Charles Losh - Arizona
Russ McCampbell - Missouri
George Martin - Alabama
Phyllis Rich - Nevada
Don Brannon - North Carolina
Steve Equall - Nebraska

Members of the Accountability Committee have been participating in a number of focus groups which have been convened by the Office of Vocational and Adult Education (OVAE), U. S. Department of Education, in collaboration with the National Center for Education Statistics. Specifically, Dick Miguel, Chris Lyons, Don Brannon, and Russ McCampbell were involved with the focus groups. Phyllis Rich was invited, but could not attend due to pressing matters in her state. In addition, our NASDVTEc Executive Director, Kim Kubiak, also attended and participated in the meetings.

On Tuesday, July 22, 1997, a panel of approximately 25 individuals focused on a discussion of the publication, *Vocational Education in the United States: The Early 1990s.* The goal was to review that publication and other related publications, and consider their usefulness in terms of data needs for program accountability and application back in our individual states. Attached is a summary of our discussions as prepared by Gary Hoachlander, President of MPR Associates, Inc. Gary facilitated our discussion.

On Wednesday, July 23, 1997, nearly the same group met to discuss the Government Performance and Results Act (GPRA) indicators, as prepared by the Office of Vocational and Adult Education, for vocational and technical education and school-to-work. In preparation for that meeting, the Accountability Committee sought input from several state directors and a "Comment Paper" was submitted to OVAE and MPR Associates. Attached are copies of the initial draft GPRA indicators and the Comment Paper. That paper provided the spring board for discussion on Wednesday. Attached is a follow-up memorandum from Doris Werwie from OVAE, in which she details a revised indicator listing based on the input from the Wednesday focus group.

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On Thursday, July 24, 1997, several individuals were added to the discussion to include Don Brannon and the School-to-Work Director from Utah. The purpose of the meeting was to develop unified performance measures for vocational education and school-to-work. Dr. Elliot Medrich and Dr. Steven Klein, of MPR Associates, led the discussion which centered around seven (7) core measures: Secondary Diploma Completion; Postsecondary Certification or Degree Completion; Skill Certificates; Placement in Employment; Placement in Postsecondary Institutions; Job Retention; and Earnings. The discussion panel suggested a number of revisions to the core indicators, as well as reducing the number of the indicators, and MPR Associates are in the process of summarizing that input.

Throughout the three days of discussion, the state directors of vocational education who were in attendance kept emphasizing the following measures as being the most appropriate for Vocational-Technical Education:

1. We need to start by measuring who takes what. The who includes all of the necessary demographic information about individuals. The what includes courses and programs that have occupational competencies as an outcome.

2. We then need to measure the degree to which the occupational competencies taught in the above mentioned courses and programs are achieved by individual students.

3. We further need to measure what happened to students after exiting a given level of education (Placement). Were they employed? If so, where? Did they continue their education? 2-year, 4-year, or military, etc.

4. Then, we need to measure the bottom line. Were those who employed those who participated in vocational-technical education programs satisfied with the preparation the employee received?

The discussion groups were frank and thorough in bringing the issues to the table. The state directors who were in attendance were very specific in their statements and concerns.

Assistant Secretary Trish McNeil is to be commended for attending the panel discussions and for actively participating in the discussion. In addition, Doris Werwie, Branch Chief for the Program Analysis Branch, is to be commended for organizing the three-day meeting and for providing members of the Accountability Committee an opportunity to participate in the meetings.

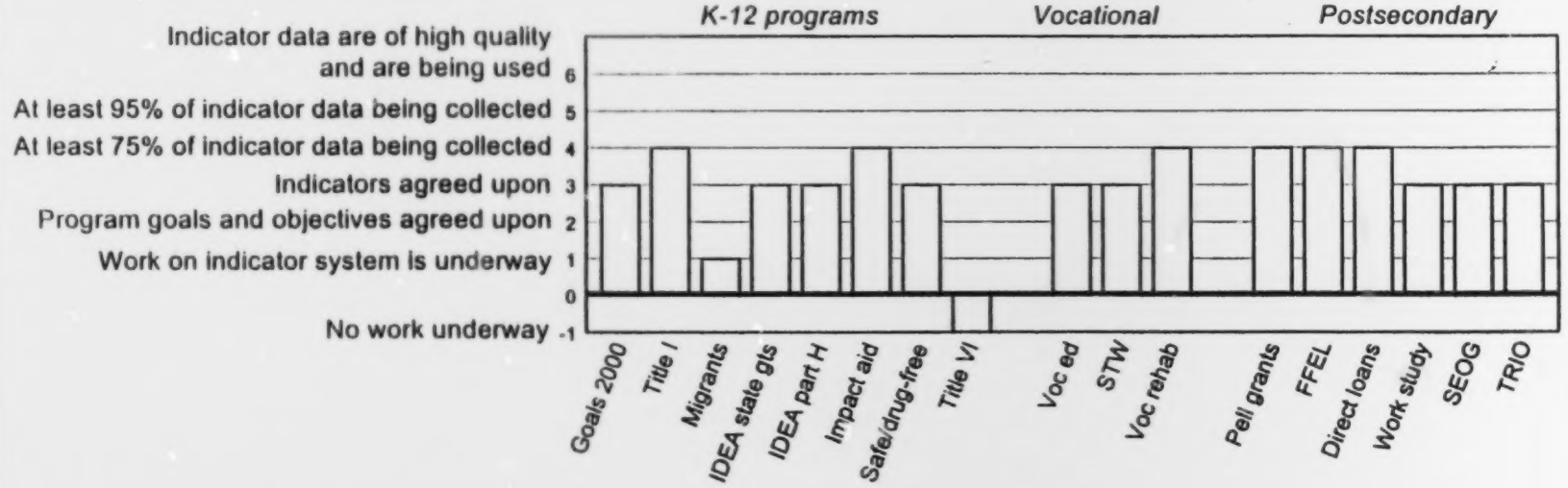
OVAE and MPR Associates are analyzing the input from the focus groups. Doris Werwie has just recently moved to the Assistant Secretary's Office to oversee the GPRA initiatives. Mark Schwartz has been named as the Acting Branch Chief for the Program Analysis Branch and will be working with the state directors on performance standards and indicators. Mark's E-Mail address is: Mark_Schwartz@ed.gov. He will be attending our meeting in Montana and would like to visit with any of our state directors regarding their issues and concerns with performance standards and indicators.

Submitted by:
Russell E. McCampbell, Chair
Accountability Committee

PERFORMANCE CHART: Indicator 36
By 1996, performance measures will be used to guide policy and program improvement efforts for the Department's 15 largest programs. (Mike Smith)

Priority 4: Transform the U.S. Department of Education into a high performance organization. (Winston/Rasmussen)
Objective 22: Increase accountability through performance measures, financial management, and evaluation. (Ginsburg/Laine)

INDICATOR RESULTS: ***Considerable progress has been made on developing indicator systems and collecting data for 5 of ED's 15 largest programs:***



Data source: Office of the Under Secretary (OUS) estimates, 1/15/97
Next update: 2/28/97

Analysis and Comments:
- The Under Secretary has met with program assistant secretaries on performance indicator plans for most of these programs. He approved sending them, in draft, to OMB.
- OMB staff have reviewed all the plans sent with the FY 1998 budget. They sent a list of ones that could be shared with Congress. We are also awaiting OMB specific comments on certain plans.

Budget and Legislative Implications:
- Congressional committees have expressed considerable interest in seeing performance indicator plans. One said they may develop their own goals and indicators for Dept. programs if ours are not available.

Corrective Action/Next Steps:
- Need to refine the plans approved by DS and OMB (put in common format, include strategies column, respond to OMB comments, and polish). Then (1) send to Congressional committees and (2) start a process of consultation with stakeholders.
- PES and Budget are starting work on a tracking system for all indicator plans.

Status: AMBER

Responsibility: ED

MPR Associates, Inc.

August 20, 1997

Russ McCampbell
Vocational and Adult Education
Missouri Department of Elementary and Secondary Education
P.O. Box 480
Jefferson City, MO 65102

Dear Russ:

We have enclosed our summary and recommendations from the July 22nd meeting on the future of the National Center for Education Statistics' vocational education program. We hope you will take the time to review the report and will feel free to contact us with your reactions and comments. We can be reached at (510) 849-4942 or at the e-mail addresses listed below.

Thank you again for contributing to this important effort. We greatly valued hearing from you about national data needs related to vocational education and school-to-work transitions and hope you will find the interests and concerns raised at the meeting reflected in the enclosed report.

Sincerely,

Gary Hoachlander
President
ghoachlander@mprinc.com

Karen Levesque
Senior Research Associate
klevesque@mprinc.com

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NCES' Vocational Education Program
Advisory Panel Meeting
July 22, 1997

SUMMARY AND RECOMMENDATIONS

Introduction

Obtaining comprehensive, reliable information about vocational education in the United States has been a longstanding concern of national policy. Substantial effort has been devoted by the National Center for Education Statistics (NCES), the Office of Vocational and Adult Education (OVAE), the National Assessments of Vocational Education (NAVE), the National School-To-Work Office (STWO) and others to improving the available information over the past 20 years. The meeting on July 22, 1997, built upon earlier collaboration between NCES and OVAE to strengthen data collection and reporting. Meeting participants included representatives from NCES, OVAE, STWO, Planning and Evaluation Services (PES), the Office of Educational Research and Improvement (OERI), national associations, state administrators, and independent researchers, and included people familiar with elementary/secondary and postsecondary/adult perspectives.

The meeting was devoted to discussing three questions:

(1) What do we need to know about vocational education and school-to-work transitions during the next decade, and how does this differ from the past? What are some of the most important emerging issues and trends?

(2) What is the capacity of NCES and other sources of data about education and work to respond to these future information needs? Where there are important gaps, what are some possible strategies for obtaining the necessary information?

(3) How well does the current menu of publications report information on vocational education and how could these publications be improved in the future?

This paper summarizes the discussion on the above three questions and makes recommendations for steps that NCES can take to address future information needs related to vocational education and school-to-work transitions.

The Future of Vocational Education Data Collection

Keeping In Mind the Four Purposes of National Data

When thinking about the future of data collection, it is important to keep in mind four primary purposes of national data and the different data collection strategies that are needed to support them:

- *Describing context and trends.* These data need to be uniform and comparable; periodic (rather than annual); collected in the context of general education; and both cross-sectional and longitudinal. These data can also be derived from a representative sample of respondents rather than from the universe of all respondents. NCES and other federal statistical agencies are best suited to collect data that meet these requirements.

- *Describing and evaluating program practices.* Describing and evaluating program practices—including reform initiatives—usually requires conducting special studies that use a variety of research techniques (such as case studies, special purpose surveys, and experiments and quasi-experiments). The NAVE, the National Center for Research in Vocational Education (NCRVE), OVAE, PES, and other agencies with direct responsibility for program oversight are best suited to conduct these types of studies.

- *Monitoring compliance.* Compliance data need to be maintained by all who are accountable (the universe of respondents rather than a sample) and must describe the actions of individual schools or institutions. Sometimes these data need to be compiled annually. Certain agencies (such as OVAE and the Office of Civil Rights) have a special interest in monitoring state and local compliance with federal program requirements and other legislative requirements, such as federal protections against discrimination.

- *Improving state and local programs.* Data that are used for program improvement need to reflect state and local objectives. Ideally, these data should be developed by the states and local agencies who will use them. Consequently, these data generally lack comparability and cannot be used reliably to produce national estimates.

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It is important to keep these distinctions in mind when thinking about what NCES and other agencies can contribute to the available information on vocational education and school-to-work transitions.

Deciding on a Framework for Future Data Collection

Participants discussed whether the framework for future data collection should remain "vocational education." Some made the point that state money continues to be allocated to vocational education and that specific occupational programs continue to be an integral part of school practices. Others talked about the movement toward integrating academic and vocational education and developing career majors or pathways, which encompass more than what is traditionally thought of as vocational education. Most agreed that a common concern among meeting participants was the idea of preparing students for "work" or "career", with some preferring the term "learning for work" over "education for work" and others liking the concept of "transitions" (into further education and training as well as work). Some participants emphasized the acquisition of technical skills, although others pointed out that school-to-work encompasses academic and general employability skills as well as technical skills, and still others talked about the importance of looking at the full range of career preparation activities that schools and institutions engage in—not just specific occupational preparation. The consensus seemed to be that future NCES data collection should continue to describe "vocational education," though perhaps more broadly conceived and with more emphasis on gathering information on the progress of important reforms.

Key Issues

What do we want to know about vocational education and school-to-work transitions in the future? The following key issues and their implications for future data collection were highlighted during the discussion:

- *What works? Long-term outcomes.* Understanding what works requires collecting data on long-term outcomes, especially labor market outcomes. Since people take different—sometimes winding—paths through education and work, several participants emphasized the importance of conducting long-term longitudinal studies that follow up with respondents well beyond high school graduation. Some participants said they were willing to forgo some cross-sectional data in order to obtain better longitudinal data. Regression and other forms of multivariate analysis

could be used to help separate out the impact of participation in education and training experiences from other factors in longitudinal studies.

- *Intermediate outcomes.* While waiting for evidence on long-term outcomes, possible intermediate outcomes include the acquisition of academic, technical, and general employability skills and success in further education and training and other transitions. (While there are no direct assessments of technical skills on the horizon, an indirect indicator of the acquisition of these skills might be attainment of industry skill certificates or some other indicator of program completion.)

- *Adults and life-long learning.* One area that is neither well documented nor understood is the various paths that adults take through education and work and the short- and long-term outcomes of varying degrees of participation in education and training. NCES postsecondary data collection focuses largely on students in degree-granting programs, and related analyses focus mostly (although not exclusively) on the patterns and impact of formal program completion. However, adults participate in education and training outside of postsecondary institutions[1] and many take only one or a few courses—sometimes for credit, sometimes not—although these may have immediate employment consequences.

- *Employer information.* Current analyses mostly describe labor market outcomes from the former student's perspective (employment status and earnings over time), rather than from the employer's perspective. Information on employer satisfaction with the skill level of the workforce would help describe the context of education reforms. Any changes in what employers look for in prospective employees could also be informative (for example, competencies, credentials, types of work experiences). Also, there is currently little information on the formal and informal learning that takes place at work.

- *Integration of academic and vocational education.* Among important reforms are efforts to integrate academic and vocational education. Information on the forms that integration takes and the pervasiveness of these practices would be useful.

- *Linking classroom- and work-based learning.* Efforts to link classroom- and work-based learning are a cornerstone of school-to-work and have been part of

[1] As many as 29 percent of adults aged 18 through 34 who were taking vocational courses in October 1990, were served by providers other than postsecondary institutions. See *Vocational Education in the United States: 1969–1990*, p. 32.

vocational education for many years. It would be useful to understand what forms these linkages currently take and how widespread the different practices are. Examples include development of career majors and pathways, various work-based learning experiences, and connecting activities. Information on how reforms vary across and within states would help facilitate a national dialogue on reform efforts.

- *Articulation between secondary and postsecondary education.* Tech Prep and other articulation efforts have been underway for a number of years. It would be useful to identify the different configurations in practice (2+2, 2+2+2, 4+2, etc.) and how widespread they are.

- *Teacher professional development.* Professional development is crucial to maintaining a qualified teaching force. Understanding the range and pervasiveness of professional development activities—particularly related to vocational education and school-to-work—is important, such as pre-service activities including college training practices, work experiences, in-service activities, teacher externships, and teacher certification (such as the National Board for Professional Teaching Standards proposed vocational education certification process).

- *Partnerships.* Important efforts include business-education partnerships and parental involvement.

- *College/university admissions practices.* Several practices were mentioned at the meeting as meriting investigation: How widespread is the practice of accepting applied academics courses? How do institutions treat tech prep credits? How much emphasis is given to work experiences when admitting students? On the adult education/life-long learning side, what kinds of financial assistance and other supports are non-credit coursetakers eligible for?

Current Capacity to Inform the Key Issues

NCES administers a number of national surveys which, taken together, provide a rich source of information. These surveys collect data on elementary/secondary and postsecondary education and on students, teachers, schools and institutions, households, and libraries. They include both cross-sectional and longitudinal designs and collect data on nationally representative samples as well as from the universe of schools and institutions.

Most surveys ask questions directly of respondents, while some also collect transcripts or administer an educational assessment. In addition to data from the NCES surveys, recent publications have included information on vocational education obtained from surveys conducted by other federal statistical agencies, including the Census Bureau and the Department of Labor, and from the National Assessment of Vocational Education.

In some cases, publishing information on the key issues identified in the previous section requires obtaining new data. In other cases, information can be obtained by tapping new data sources or by changing the way current data are analyzed and reported. As mentioned in the section on the four purposes of national data, the strength of NCES-type data collection is that it provides periodic information that is uniform and comparable across respondents and over time. These large-scale surveys require substantial time to develop, implement, and analyze, a process which does not lend itself easily to collecting and reporting timely data on new reform efforts. However, NCES has two vehicles for obtaining targeted information: the *Fast Response Survey System (FRSS)* for elementary/secondary education, and the *Postsecondary Education Quick Information System (PEQIS)*. After piloting survey questions through these formats, successful questions could then be added to the ongoing surveys.

Nevertheless, information on certain reforms may be difficult to obtain, because key components of the reforms may not have standard definitions and may be implemented in a variety of ways. For example, experience with the national evaluation of School-to-Work has demonstrated that there is little agreement across the states about what constitutes a career major or pathway. Quantifying the number of students nationwide who are participating in career majors or pathways is therefore problematic. In the pursuit of better information on vocational education and school-to-work transitions, it is important to remember that emerging and decentralized reform efforts can present significant measurement challenges.

A number of national datasets have become available since publication of the last *Vocational Education in the U.S.* in 1995. These provide some information on the key issues identified in the previous section. **The table on the next page summarizes this information.** While the datasets mentioned in the table do not address all data needs, some additional information could be obtained through *FRSS* and *PEQIS* and, possibly, the national evaluations of School-to-Work and Tech Prep. Decisions about filling specific information gaps will need to be made during preparation of upcoming publications.

Current Data Capacity

Key Issue	Potential Data Sources for Upcoming Publications
Long-term outcomes	The *High School & Beyond (HS&B) Fourth Follow-Up* provides outcomes for 1982 high school graduates ten years out. These data could be compared with similar data for the *National Longitudinal Survey of 1972*.
Intermediate outcomes	The *National Educational Longitudinal Study of 1988 (NELS88) Third Follow-Up* provides outcomes for 1992 high school graduates two years out. These data could be compared with similar data for 1982 graduates from *HS&B*. The 1994 *National Assessment of Educational Progress (NAEP94)* provides information on the academic skill attainment of high school students in the areas of reading, U.S. history, and geography. (*NAEP90* covered reading, math, and science.) *NELS88* could control for prior academic achievement. *Beginning Postsecondary Students* provides information on vocational coursetaking and completion patterns in degree-granting programs and on transitions into the labor market over a four-year period for first-time students beginning study in 1989–90.
Adults and life-long learning	The 1995 *National Household Education Survey (NHES)* provides information on the educational activities of adults. The 1990 and 1992 *Current Population Surveys* provide information on adult education and training.
Employer information	The 1994 Census Bureau employer survey and other surveys mentioned at the meeting could provide some information.
Integration of academic and vocational education	The 1997 *National Longitudinal Survey of Youth (NLSY97)* provides some information. The 1995 *Teacher Follow-Up Survey (TFS95)* provides some information. The *Public Secondary School Teacher Survey on Vocational Education* (a Jan. 1994 FRSS survey) provides some information.
Linking classroom- and work-based learning	*NLSY97* provides some information. *TFS95* provides some information.
Articulation	*NLSY97* provides some information.
Teacher professional development	*NLSY97* provides some information. The 1994 *Schools and Staffing Survey* provides some information.
Partnerships	The 1996 *NHES* provides information on parent involvement in their children's education.
College/university admissions practices	A recent NCRVE survey of public university admissions policies provides some information.

In addition to what is included in the table, newly available datasets could provide information on the following topics. However, it will be necessary to set priorities among all of the possible data that could be included in new publications.

- High school vocational coursetaking trends. The *National Assessment of Educational Progress* could update trend information from '82, '87, '90, and '92 to '94. (Trends for 1982–1992 were published in the last *Vocational Education in the U.S.*)

- High school teacher trends. The *Schools and Staffing Survey of 1993* could provide trend data on teachers for '88, '91, and '94. (Some trends for 1988–1991 were published in the last *Vocational Education in the U.S.*)

- Postsecondary participation trends in degree-granting programs. The *National Postsecondary Student Aid Study* could provide trend data for '87, '90, '93 and '96. (Data for 1990 were published in the last *Vocational Education in the U.S.*)

- Postsecondary degrees and certificates awarded. The *Integrated Postsecondary Education Data System* could provide trend data. (Data for 1990 were published in the first *Vocational Education in the U.S.*)

- Postsecondary outcome trends for adults. The *Survey of Income and Program Participation* could provide trend data on postsecondary participation and labor market outcomes for adults. (Data for 1990 were published in the last *Vocational Education in the U.S.*)

- Postsecondary faculty trends. The *National Survey of Postsecondary Faculty* could provide trend data for '88 and '93. (Data for 1988 were published in the first *Vocational Education in the U.S.*)

The Format of Upcoming Publications

Discussion at the meeting revealed that it is crucial to think clearly about who the audiences are for NCES publications on vocational education and school-to-work transitions and how these audiences might use the published information—different publications may need to be designed for different audiences. Additionally, more attention needs to be given to alternatives to printed documents, especially opportunities afforded by

the World Wide Web, CD-ROM, and other forms of electronic media. When considering these latter forms, it is important not simply to publish the traditional printed document in electronic form, but rather to take advantage of new opportunities for presentation and use afforded by these technologies. Meeting participants offered a number of suggestions for improving both the types and formats of future publications.

Generally, busy users preferred formats that provided quick and easy access to key findings, although some admitted delving deeper into the data. Meeting participants found the following recent products particularly useful:

- The overview essay in the main publication;
- The graphical display in the American Vocational Association Journal; and
- The *School-To-Work FACTS* booklet.

The following comments and suggestions were made regarding the types of publications and related services that would be useful in the future:

- The collection of future publications should include both print and electronic formats and should be designed to take full advantage of their final formats;
- Not everyone needs to receive all of the tables that were included in the main report;
- When users are interested in the tables, they need easier access to specific tables of interest, either through an index ("if interested in A, go to B") or through hyperlinks in a World Wide Web or CD-ROM document;
- Providing highlighted findings in overhead transparency format would be particularly helpful to some audiences; and
- Providing technical assistance on using and interpreting the data would also be helpful.

The following comments and suggestions were made regarding the content of the main publication:

- Some mentioned that the *Vocational Education in the U.S.* overview essay would be more useful if it contained selected tables in addition to the graphics, so the user doesn't have to search for the back-up data;

- The overview essay could do a better job of describing what vocational education and school-to-work reforms are trying to accomplish, even if data on all of the reforms are not available;

- Many commented that the current tables are not easy to read because of the imbedded standard errors;

- Some people preferred the *Condition of Education* layout (similar to the layout of the first *Vocational Education in the U.S.*), which contains essays on "Issues in Focus", then is organized by "indicator" with every two pages containing (1) a brief description of the importance of the indicator; (2) bulleted findings; (3) a table; and (4) a related graphic;

- Including state by state data when possible would be useful for program management and policy at the state level; and

- When possible, providing data in the context of trends would aid interpretation.

Recommendations

The following is a list of recommended steps that NCES can take in the short- and long-term to address future information needs related to vocational education and school-to-work transitions.

- In the immediate future, NCES should form an advisory group for the upcoming *Vocational Education in the U.S.* The panel that was convened for the July 22nd meeting could form the core of this group, including representatives from NCES, OVAE, STWO, PES, OERI, national associations, state administrators, and independent researchers. The advisory group would review plans for the specific topics and data elements to be included in the publication and the format of the publication itself.

- Regarding the format of the next *Vocational Education in the U.S.*, the primary document should be an overview, synthesis essay organized around key issues

and containing graphics and excerpted tables that highlight key findings (standard errors for the tables should be included at the back of the document). The full compendium of back-up tables should be published separately and distributed on demand only. It should contain an easy-to-use index. The overview essay and compendium of tables could also be published electronically—the usefulness and design of the electronic forms should be discussed with the advisory group.

- In order to ensure that NCES surveys and publications on vocational education and school-to-work transitions continue to be relevant for national and state policymaking purposes in the future, NCES should form a standing Technical Review Panel (TRP) for vocational education (such as exists for postsecondary education). The membership of this group could overlap with and eventually replace the advisory group recommended above, and might also include representatives from the Bureau of Labor Statistics and the Census Bureau, among other key groups. The TRP would meet periodically to address vocational education and school-to-work data collection and analysis needs. This group would also develop a long-range vocational education publications plan and review the publications.

- In general, when designing its future publications, NCES should think explicitly about who its audiences are and what types of publications these audiences will find useful. Providing a variety of publications is probably optimal—including both print and electronic formats—and the publications should be designed with their final formats in mind.

- NCES should develop a more systematic internal process for incorporating the information needs of vocational education and school-to-work transitions into its surveys and publications. Although NCES' strategy of collecting information on vocational education in the context of general purpose surveys has a number of advantages, this strategy also means that vocational education must compete with other education interests for attention and space during survey design and implementation. In order to ensure that the information needs of vocational education are adequately addressed, NCES should form an internal committee that would meet periodically to discuss incorporating vocational education items into both new and repeated surveys.

- When framing the important issues and designing the specific items that should be included in its surveys and data analyses, NCES would benefit from the conceptual work that has been undertaken by others. For example, Mathematica Policy Research has identified forms that integration and school and work linkages take and has struggled with definitions of program participation as part of its evaluations of Tech Prep and School-To-Work. Other sources of what information is important include efforts by the NAVE, the National Board for Professional Teaching Standards, the National Skill Standards Board, various national curriculum standards efforts, and efforts to develop the new federal legislation related to vocational education. NCES should consider how best to incorporate the work of these groups into its efforts.

- NCES should cast the net widely to include data from previously untapped sources that fill important information gaps and meet NCES statistical standards. Possible sources of information include statistical surveys conducted by other federal agencies, national evaluations (for example, of School-To-Work and Tech Prep), and studies conducted by NCRVE.

- NCES should consider using its *Fast Response Survey System* and *Postsecondary Education Quick Information System* to fill important gaps in information related to vocational education and school-to-work transitions, where appropriate. Piloted items could be incorporated into full-scale surveys in the future.

- In collaboration with other agencies—such as OVAE and STWO—NCES should consider providing outreach and training activities to acquaint audiences with its publications and to train those audiences in using and interpreting the data. The TRP could help identify interested audiences and their outreach and training needs. One possible training strategy may be to target a vocational education data specialist in each state who can respond to questions that arise locally.

- Finally, an interest was expressed in examining the growing capacity of state data systems to collect and report data relevant to vocational education and school-to-work transitions. It would be more appropriate for OVAE, OERI, PES, or another evaluative agency to conduct such a study, than for NCES to do so.

DRAFT Government Performance and Results Act (GPRA) Indicators for Vocational and Technical Education/School-to-Work

As Presented for Comments to the Focus Groups on July 23, 1997 - in Washington, D. C.

Perkins Vocational and Applied Technology Act -- REVISED May 14, 1997 -- DRAFT

Goal: Increase access to and improve educational programs which strengthen education achievement, work force preparation, and lifelong learning.

Objectives	Indicators	Source and Next Update	Strategies
Student Achievement			
1. Vocational concentrators achieve competency in high level of math, science and communication skills.	1.1 By fall 2000, the percentage of vocational concentrators completing at least 3 math, science, and English courses will increase 15%; from 56% to 64% for math; from 36% to 41% for science; English - not yet available.	1.1 Base year: National Education Longitudinal Study, "Second Follow-up and High School Transcript Files, " 1992 for Math and Science. Next NELS transcript study in year 2000. Data collection/analysis needed for English.	Build a consensus for this objective both internally and externally (among parents, teachers, administrators and policy makers) by gathering information on the skills and knowledge needed by high school graduates; documenting successful programs and practices that enable students to obtain these skills; and communicating these successful practices.
2 Vocational concentrators achieve computer and industry-recognized skills.	2.1 By fall 2000, the percentage of vocational concentrators completing 1 year of computer science will increase 10%. 2.2 By fall 2000, the percentage of vocational concentrators passing industry-recognized tests increases 10%.	2.1 Data will need to be collected and analyzed using sources cited in source 1.1 above. 2.2 Data for this indicator will have to be collected and analyzed. **FUNDS NEED TO BE OBLIGATED.**	Build a consensus for this objective both internally and externally (among parents, teachers, administrators and policy makers) by gathering information on the skills and knowledge needed by high school graduates; documenting successful programs and practices that enable students to obtain these skills; and communicating these successful practices. Work with Skills Board and STW.

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Perkins Vocational and Applied Technology Act -- REVISED May 14, 1997 -- DRAFT			
Goal: Increase access to and improve educational programs which strengthen education achievement, work force preparation, and lifelong learning.			
Objectives	Indicators	Source and Next Update	Strategies
3. Percentage of vocational concentrators who attain a postsecondary certificate or an AA or BA degree increases.	3.1 By fall 2000, the range of completion rates for postsecondary sub-baccalaureate students (in less-than-2-year and 2-3 year --public, private, and proprietary schools) will shift up 15%, from 26-65% to 30-75%. Completion rates for BAs not yet available.	3.1 The Beginning Postsecondary Study, 1992 data. New cohort in 1996 , with a 1998 follow up. Data collection and analysis needed for BA degrees.	Compile base line data from existing sources on completion rates of vocational students, articulation agreements and the number for remedial courses taken, and analyze data. Work with AACC to develop additional strategies. Incorporate this objective into new legislation and the performance measurement systems of the states.
4. Percentage of vocational concentrators who attain employment in their field after completing their education increases.	4.1 By fall 2000, the placement rate will increase by 10%.	4.1 Data for this indicator not yet identified. OVAE will explore potential for inclusion in NCES system.	Work with, State secondary systems, AACC and 4-year institutions to improve placement data collection.

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Objectives	**Indicators**	**Source and Next Update**	**Strategies**
5. Employers are satisfied with the competencies of vocational concentrators they hire.	5.1 By fall 1999, at least 50% (currently 41%) of the employer's will indicate the highest satisfaction categories for students in and graduates of secondary Vocational Education programs; this will be at least 60% (currently 54%) for postsecondary students & graduates.	5.1 NAVE, Vol. II provides some basic employer perceptions of quality. A NAVE-like special study of employers needed to assess level of satisfaction and identify "vocational concentrators" from others. **FUNDS NEED TO BE OBLIGATED.**	Build consensus with employers to clarify needs; work to align industry needs and school curriculum.
Student Participation			
6. All students have access to high quality education programs including coherent sequences of skill courses.	6.1 The percent of students taking a sequence of academic courses increases. 6.2 The percent of students taking a sequence of labor market courses increases.	6.1-6.2 Data from 1992 High School Transcript Files are available but have not been analyzed for this indicator. Next NELS transcript study in year 2000. Additional NCES analysis with VocEd data will be required.	Build a consensus with secondary and postsecondary institutions for establishing high standards and a coherent course sequence. Work with AACC and State Vocational Education systems to incorporate these ideas into Standards and Measures.

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